Fire Weather Annual Report

Southeast Idaho

2003

Pocatello Fire Weather Office
Pocatello, Idaho

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

2003 Fire Weather Annual Report

National Weather Service - Pocatello Fire Weather Office

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1. Introduction:

On May 1, 2000, the Weather Forecast Office at Pocatello, Idaho formally assumed Fire Weather forecast responsibility for portions of Idaho serviced by the Central, Eastern and Southern Idaho Dispatch Centers, from the forecast office at Boise. This is the fourth Annual Fire Weather Report by the Pocatello Fire Weather Office. For annual summary information from years prior to 2000, please refer to the Boise Fire Weather Annual Reports.

2. Overview of the fire season:

Drought continued across southeast Idaho for the fourth year in a row and nationally, drought affected a little over half of the lower 48 states (Figure 3.5c). The mountains of central Idaho did fair much better than in recent years with close to normal precipitation as seen in the precipitation and snow water equivalent data (Figures 3.1a and b). This was short lived as above normal temperatures and below normal precipitation persisted through much of the summer and fall. The southern and eastern highlands continued the trend from 2002 running about 80 percent of average precipitation. The National Weather Service has maintained precipitation records for the Weather Office at Pocatello, Idaho since July 1, 1899. Based on the water year beginning in October of each year, four of the ten driest years on record occurred since 2000 (Table 2.1 and Figure 2.1).

Event	Year	Precipitation
1.	1966	5.34 inches
2.	1939	6.43 inches
3.	2001	6.94 inches
4.	2003	7.04 inches
5.	1959	7.25 inches
6.	2002	7.32 inches
7.	1901	7.56 inches
8.	2000	7.78 inches
9.	1988	7.92 inches
10.	1951	8.28 inches

Table 2.1 The driest water years recorded at the National Weather Service Office at Pocatello, Idaho since records began July 1, 1899. Precipitation based on water year beginning in October each year.

When climate records for Idaho are viewed state wide over roughly the past century (Figure 2.2) it is evident that the current drought situation rivals the severe drought period of the mid 30s however, paleoclimatic studies based on tree ring data in Idaho and western Montana suggest that in the past several hundred years that there have been periods of drought more severe than in the last century.

A weak El Nino (warm) episode began in April 2002 and continued through March 2003. This was evident from an area of low pressure that developed in the eastern Pacific near 140 degrees west longitude. This resulted in a west to southwest oriented jet stream pattern that helped to transport sub-tropical moisture from just north of Hawaii into the mountains of central Idaho. Southwest flow also resulted in advection of a warmer air mass into the district and elevated snow levels that lasted through mid winter. Temperatures averaged over a ninety day period and centered on January (Figure 3.1d) were well above normal in central Idaho. This was noted by the National Conservation Service NRCS in the Idaho State Basin Outlook Report for March, 2003 and by land management personnel in the Salmon-Challis National Forest (personal communication). The fire season may have been delayed owing to wet fuel conditions, but new growth in grassy areas got off to a good start. The snow pack as evidenced by snow water equivalent (Figure 3.1b) melted quickly this year.

> The El Nino/Southern Oscillation (ENSO) cycle occurs over a two to seven year period and refers to conditions of sea surface temperatures in the tropical Pacific Ocean. Researchers have identified other cyclic patterns besides ENSO around the globe that may affect long-term weather patterns. Some of these cyclic patterns may span 10 or even 30 years. La Nina (colder than normal) and El Nino (warmer than normal) are terms associated with extremes in the ENSO cycle.

ENSO/Southern Oscillation conditions the remainder of the 2003 fire season remained neutral. Strong high pressure dominated the western United States contributing to above normal temperatures and below normal precipitation.

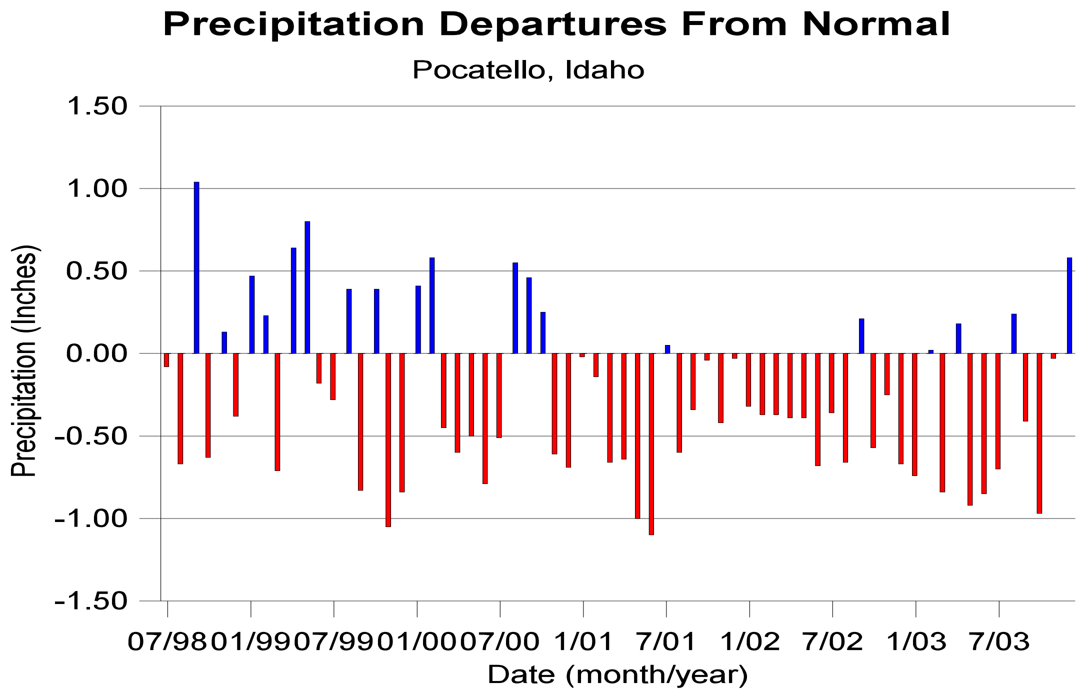


Figure 2.1. Precipitation departures from normal at Pocatello, Idaho.

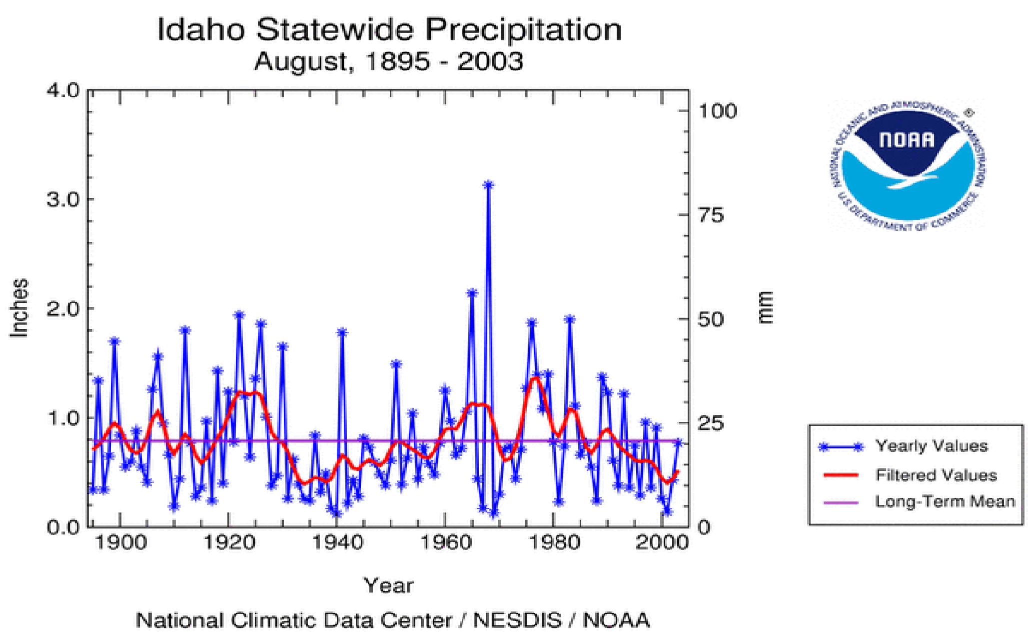
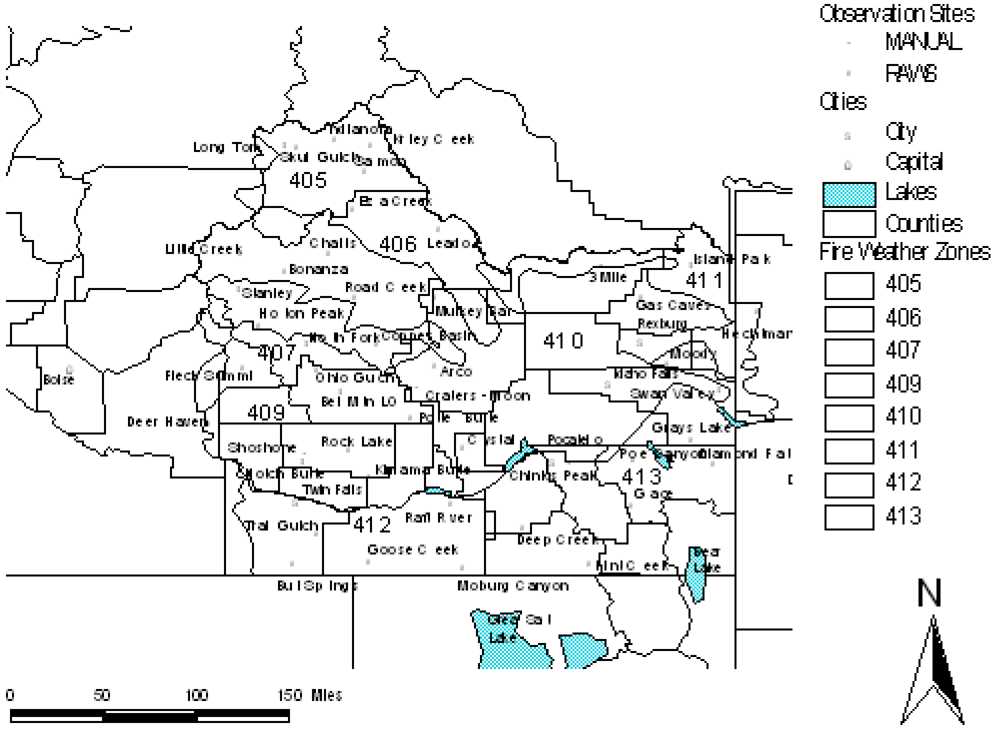


Figure 2.2. Idaho state wide precipitation over the past century.

SE Idaho Fire Weather Zones and Observations Sites



		Wildfires		Prescribed Fires		Wildland Fire Use	
		Fires	Acres	Fires	Acres	Fires	Acres
USFS							
	Caribou-Targhee National Forest	102	4,521	7	446	2	27
	Salmon-Challis National Forest	108	64,961	11	3,699	13	5,350
	Sawtooth National Forest	25	512	6	1,856	0	0
BLM							
	Upper Snake River Dist.						
	Eastern Idaho	40	39,051	5	860	0	0
	South-Central	71	9,963	10	13,350	0	0
	Salmon/Clearwater Dist.	22	6,737	2	1,151	0	0
FWS							
	Bear Lake	0	0	5	109	0	0
	Gray's Lake	0	0	0	0	0	0
	Camas	3	242	1	100	0	0
	Minidoka	0	0	0	0	0	0
NPS	Craters of The Moon National Monument	0	0	0	0	0	0
	City of Rocks	0	0	0	0	0	0
BIA	Fort Hall Agency	15	5,998	1	18	0	0
INEEL		7	718	0	0	0	0
Total		393	132,703	48	21,589	15	5,377

Table 2.2. Preliminary (December 4, 2003) estimate of fires and acres burned in Southeast Idaho during the 2003 fire season. Source Bureau of Land Management, Eastern Great Basin Coordination Center.

3. Weather in review:

October and November 2002:

The new "water year" (which starts October 1st) started rather ominously after more than 4 years of drought. For much of this month, high pressure over the North American west coast blocked the wet Pacific storms from entering the contiguous U.S. West coast, sending them northward into Canada and Alaska. The bulk of the storms during these two months came from interior Canada, which means very little moisture and colder than normal temperatures. In the month of October, the Salmon River portion of the district received only 32% of its average precipitation. The rest of the Salmon-Challis National Forest (SCF) and the northen Sawtooth Nation Forest did better with 65% of normal. BLM's Upper Snake District received closest to normal at 75%, while lands south of the Snake River received on average only 42% of normal precipitation. For November, southeast Idaho received 50% to 65% of normal precipitation. The cold Canadian air was also reflected in the temperatures; as a comparative standard, the average temperature at the Pocatello airport was over 5 degrees colder in October and 2 degrees colder in November. It was also noted by the October 30th snow in Pocatello

December 2002:

The "door to the arctic" closed by early December, with the storm track returning to the more familiar eastern Pacific. The SCF and northern Sawtooth experienced their first surplus month with 117% and 141% of normal for the Salmon River and Wood/Lost River basins, respectively. Lands to the south did not do quite as well, with the Targhee portion of the Caribou-Targhee National Forest (CTF) and Upper Snake BLM lands receiving 83% of normal. The southern Sawtooth and southern CTF received near normal precipitation. Notable storms included 14th to the 17th of the month. This storm was warm and windy with highs in Pocatello reaching into the 40s and lower 50s. While more than a quarter inch of melted precipitation fell in Pocatello, only two inches of snow were received. It was in fact the 10th warmest December in the 104 year history of observations in Pocatello. Still, snowpack in the mountains ranged from 90% to 150% in the high elevation central Idaho mountains, while the Snake River Plain and mountains south of the Snake River had a snowpack 70% to 85% of normal.

January and February 2003:

Persistent high pressure during this period resulted in the warmest January ever for the state of Idaho. The pattern was more reminiscent of summer. The storm track kept north of Idaho with storms moving through the Panhandle and central Idaho, leaving much of southern Idaho in the warmth and sunshine. This is evident in precipitation; only the Salmon River drainage had above normal precipitation (119%). The rest of the SCF and northern Sawtooth received only 69%, and the Targhee portion of CTF netted 87% of normal. For areas south of the Snake River, it was incredibly poor with wide ranging percentages, 20% to 60% of normal (Pocatello received only 35% of normal). The warm air damaged the snow pack slightly with most high elevation sites dropping to 75% to 100% of normal, and in mountains bordering Nevada and Utah snowpack was reduced to about half of normal – Pocatello had only an inch of snow, the rest falling as rain. The warmest January temperature ever recorded in Pocatello occurred on the last day of the month, when the mercury topped the 60 -degree mark. February was little better. It was the 7th warmest February in Pocatello. Precipitation even over the central Idaho mountain ranges dropped off to 75% to 85% of normal precipitation. The handful of significant storms included the 3rd to the 5th, 8th to the 10th, and 21st to the 23rd of January, and the 1st to the 3rd, 12th to the 14th, and 16th to the 17th of February.

March through May 2003:
After two dry springs in a row (2001 and 2002), the spring of 2003 was a pleasant surprise. Storms from the Pacific Ocean tracked more than usual into the intermountain west. This allowed a better chance for surplus precipitation, though not every location did well. With the jet stream lingering over Idaho for much of the month, this allowed for more convective, showery precipitation, including thunderstorms. As a result, locations in the Wood and Lost River basins and in the drainage basin of the Snake River above American Falls had precipitation amounts ranging anywhere from 40% to 175% in March! It was even better for April with all gages receiving at least normal with some receiving double the normal rain and snow. The southern Sawtooth National Forest and southern portions of the CTF received just slightly less than normal for March, but then got to share in the wealth for April with averages of 177% of normal. Temperatures actually fell to below normal for the wet month of April. Finally, with all the thunderstorm activity, a tornado struck near Pocatello on April 28th. As May wore on, the return of more persistent high pressure over the American west returned. Final snowpack measurements for the season showed the SCF and northern Sawtooth NF with near normal snow of 90% to 110%. Areas to the south did not see quite the comeback with snowpack in the 50 % to 70% range.

June and July 2003:
Drought returned as nearly persistent westerly steering winds remained over Idaho much of the time. This kept subtropical moisture from surging north to produce summertime, moist convection, including showers and thunderstorms. By July the usual persistent western states' high pressure dominated the weather pattern for long stretches. It was the 3rd driest June ever recorded in Pocatello, with only 0.06 inch of rainfall, compared to a normal of 0.91 inch. July was even drier with just a trace of rain, tying the record low precipitation in Pocatello. Lack of southerly winds during the month kept the temperatures near normal with no record temperatures of any kind for Pocatello in June, but the lack of moisture in July helped set the record for the warmest average daily high in Pocatello (94.6 degrees each afternoon); the mercury reached 100 degrees or more for 9 days in July.

August 2003:
Idaho made up for the hot dry July during August. Very weak winds in the upper atmosphere during the month allowed moisture from the subtropics to surge northward (known as the "southwest monsoon"). The most active days were from the 10th to the 23rd, with the largest and wettest thunderstorm and lightning outbreak of the season on the 21st and 22nd. Rainfall at Pocatello was 78% of normal for the month and the temperatures just slightly above normal.

September 2003:
The 2003 fire season never really had the "season-ending event" most people expect. The first

10 days of the month continued August's pattern of showers and thunderstorms, then a dry northwest flow set up over the Pacific Northwest. No precipitation occurred over eastern Idaho during the last 13 days of the month.   The northerly component to the wind made for just a gradual cooling down of the temperatures. Heavy precipitation did not start until late December.

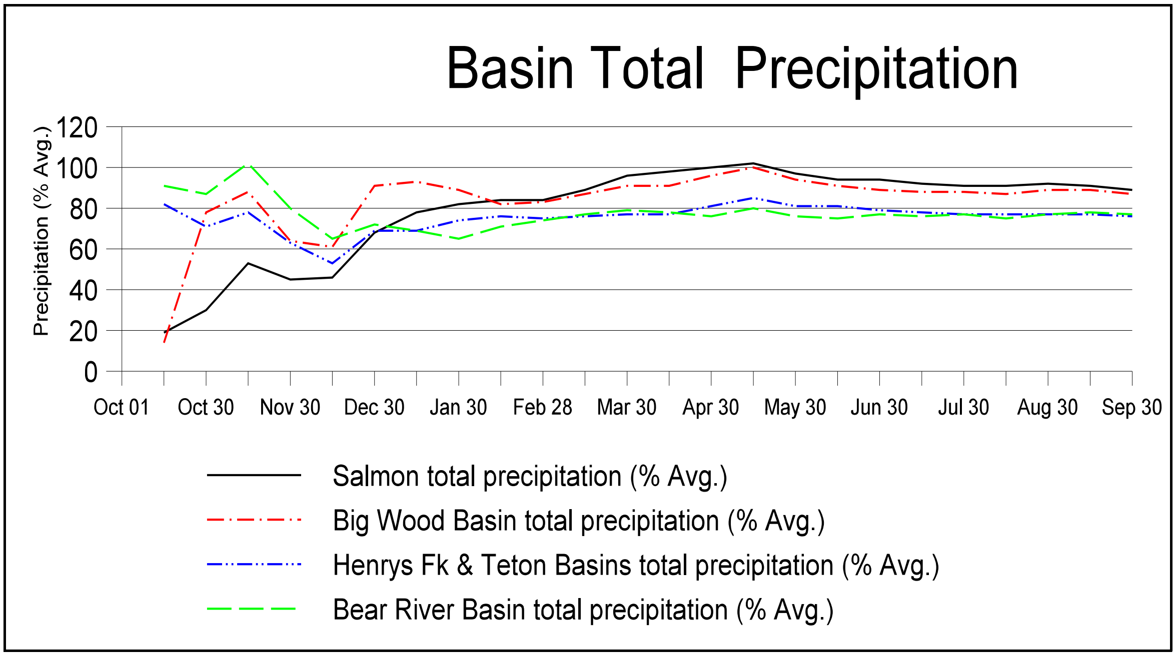


Figure 3.1(a). Total precipitation for select Southeast Idaho Basins expressed as a percent of average. Source USDA Natural Resources Conservation Service, National Water and Climate Center, Portland Oregon.

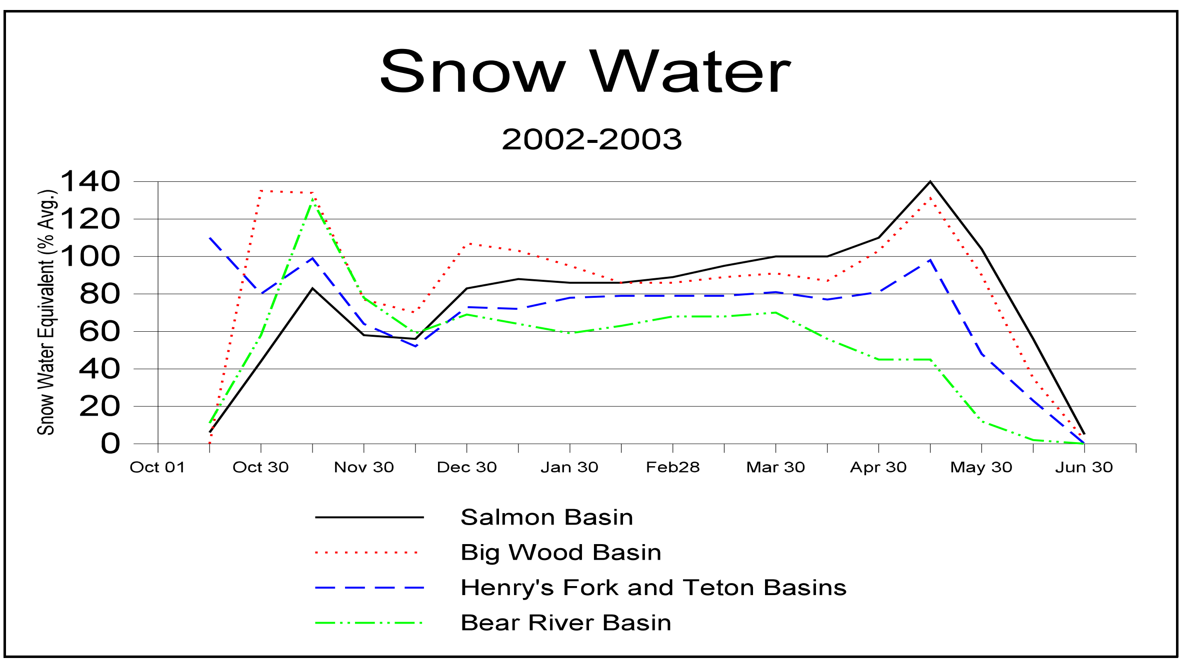


Figure 3.1(b). Snow Water Equivalent for select Southeast Idaho basins. Source USDA Natural Resources Conservation Service, National Water and Climate Center, Portland Oregon.

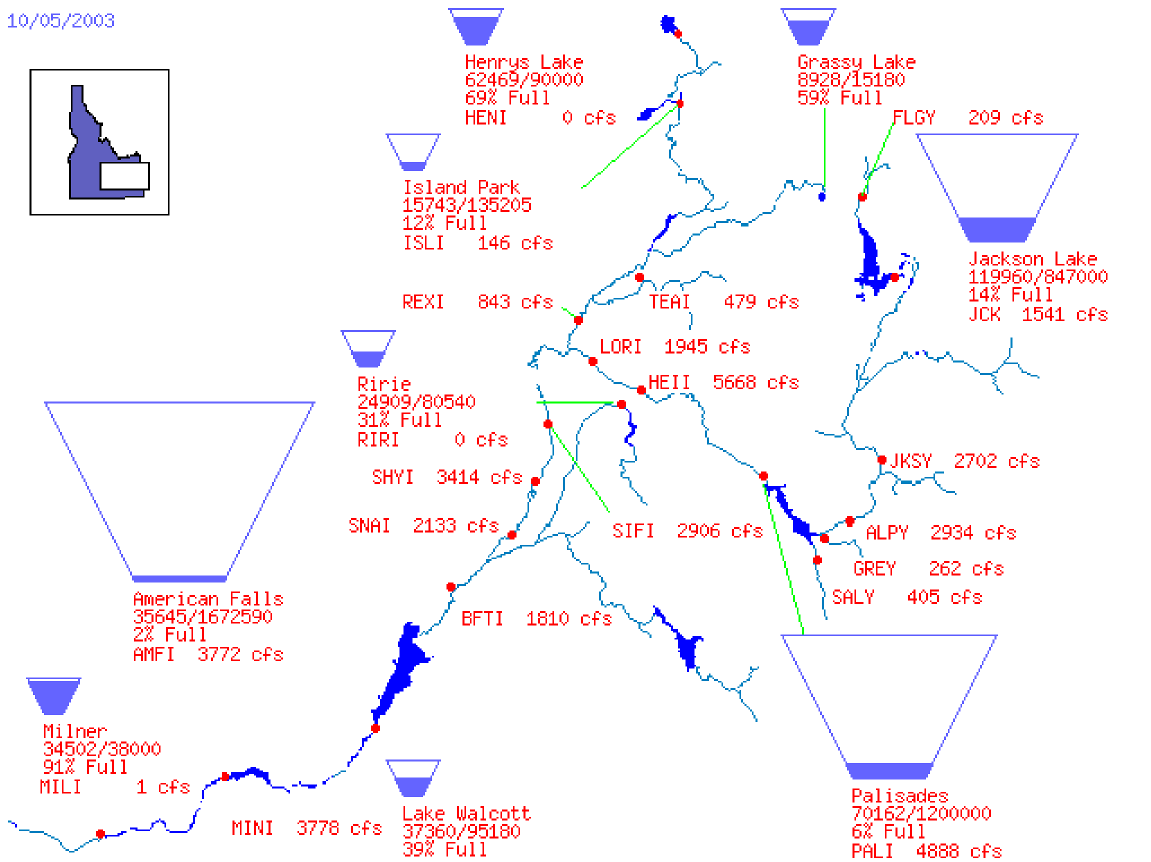


Figure 3.1(c). Tea cup diagram showing status of major storage reservoirs in the Upper Snake River Basin of Southeast Idaho as of October 5, 2003 (provisional data). Source US Bureau of Reclamation, Pacific Northwest Region.

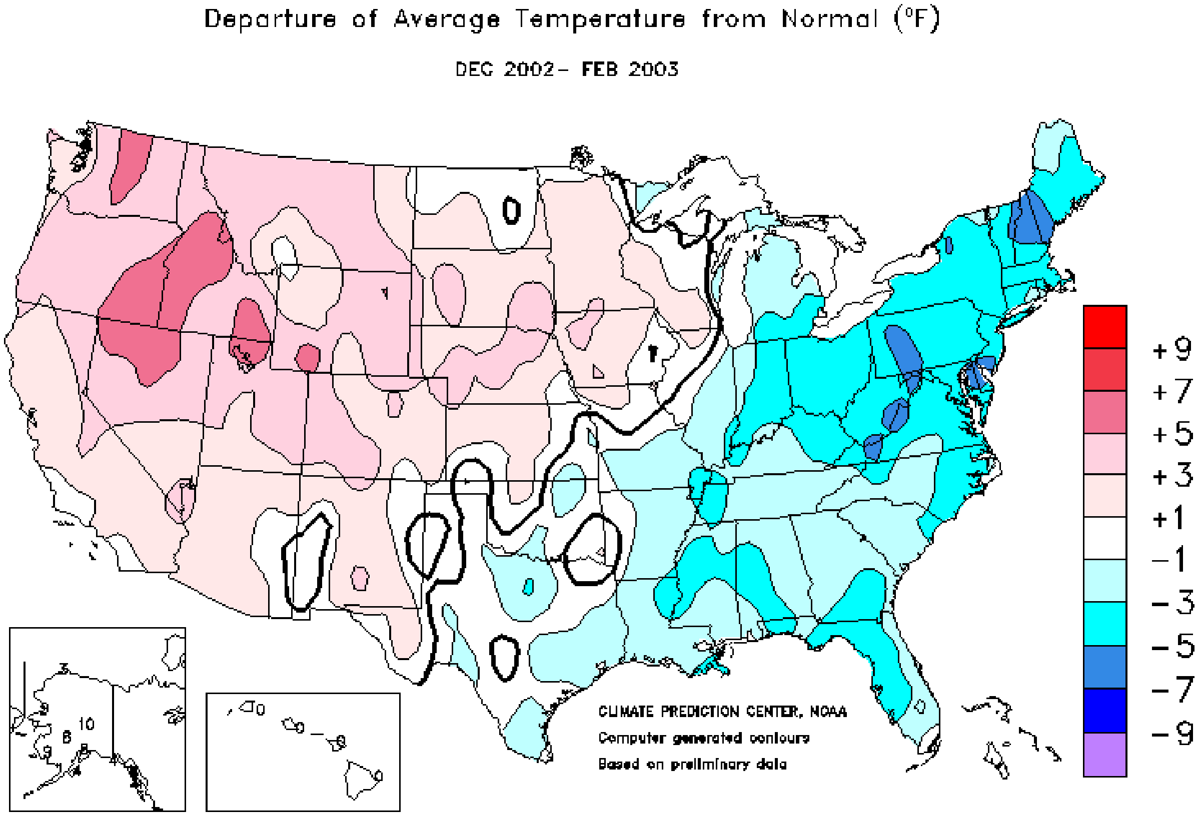


Figure 3.1(d). Departure from normal for 90 day averaged temperatures centered on January 2003. Source Climate Prediction Center, National Oceanic and Atmospheric Administration.

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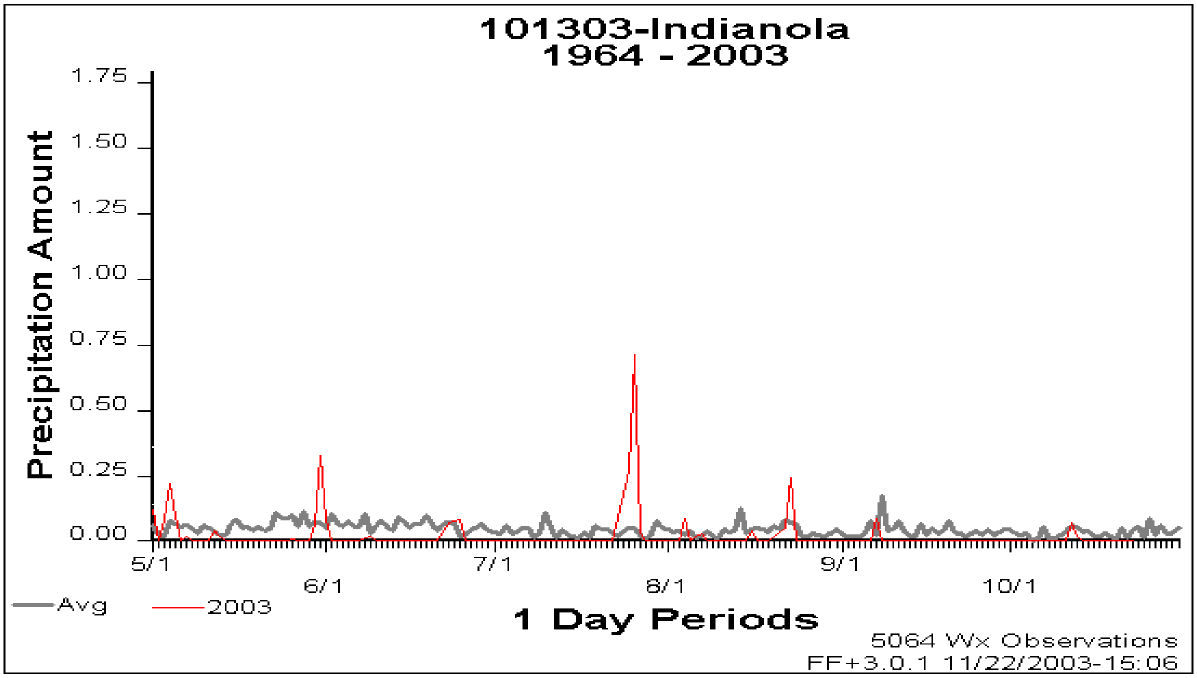

Figure 3.2(a). Observed and average precipitation at Indianola RAWS site. Fire weather zone 405.

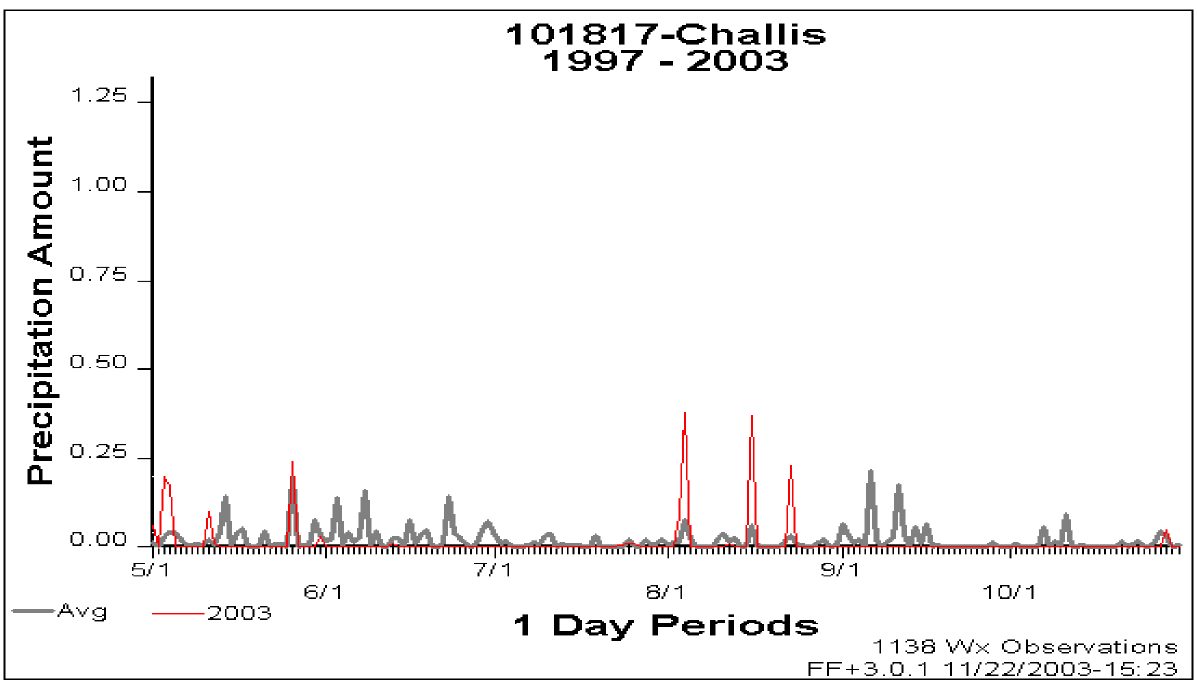

Figure 3.2(b). Observed and average precipitation at Challis RAWS site. Fire weather zone 406.

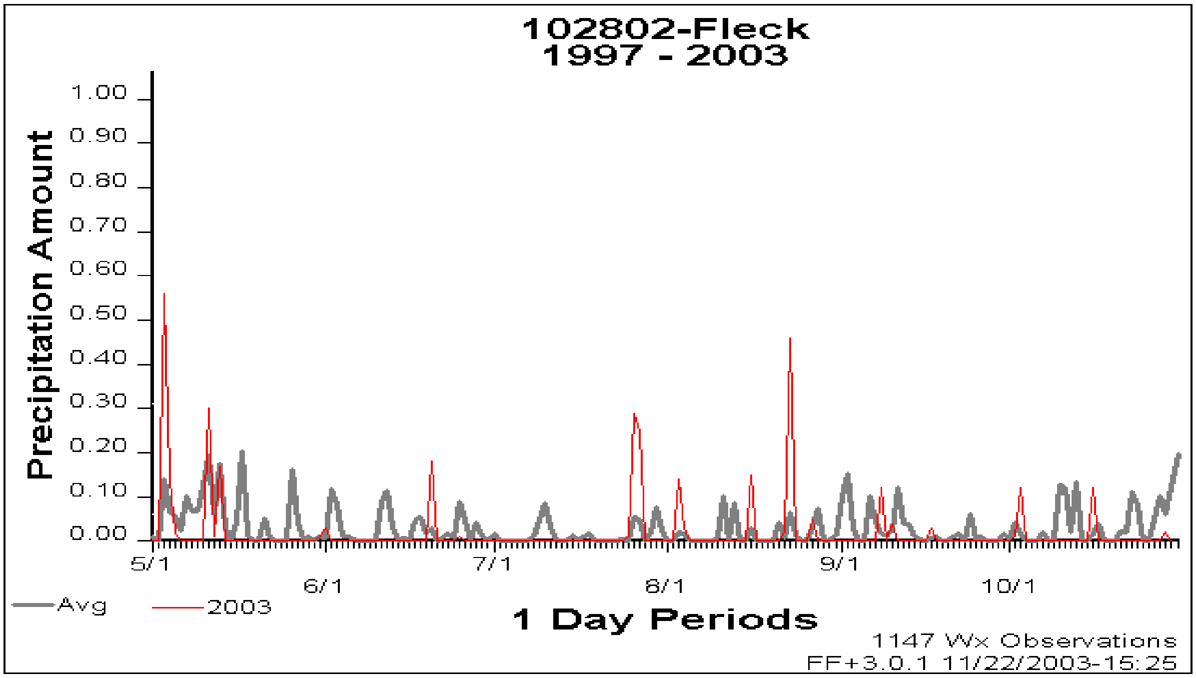

Figure 3.2(c). Observed and average precipitation at Fleck RAWS site. Fire weather zone 407.

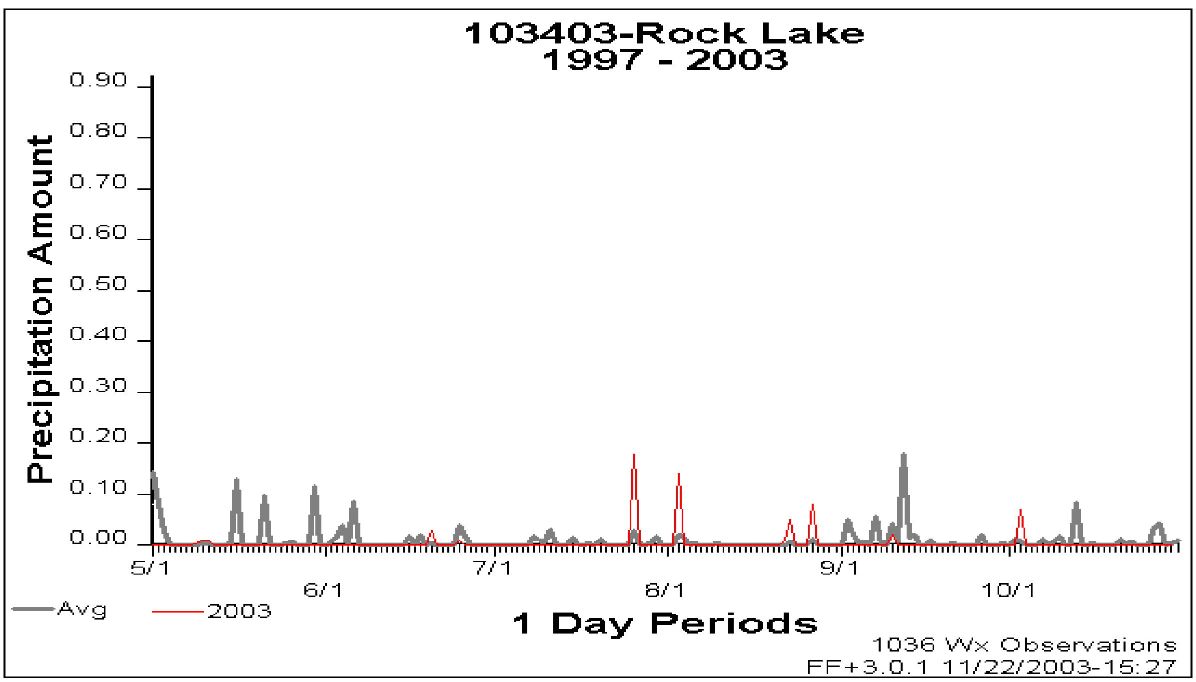

Figure 3.2(d). Observed and average precipitation at Rock Lake RAWS site. Fire weather zone 409.

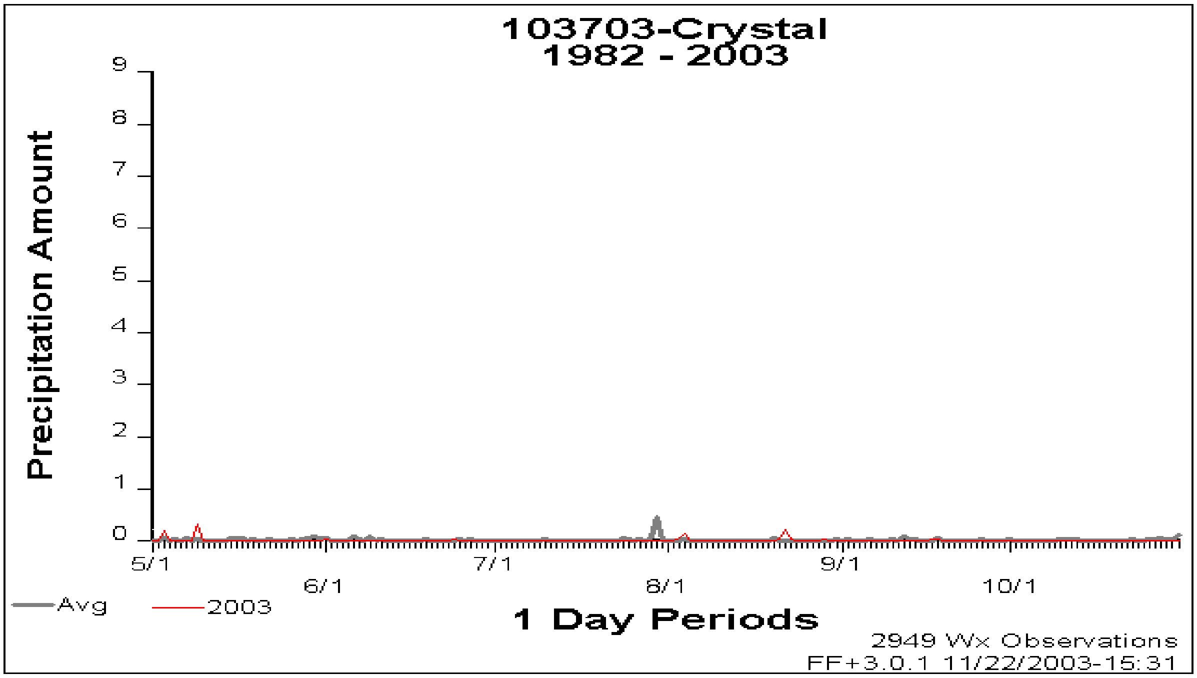

Figure 3.2(e). Observed and average precipitation at Crystal RAWS site. Fire weather zone 410.

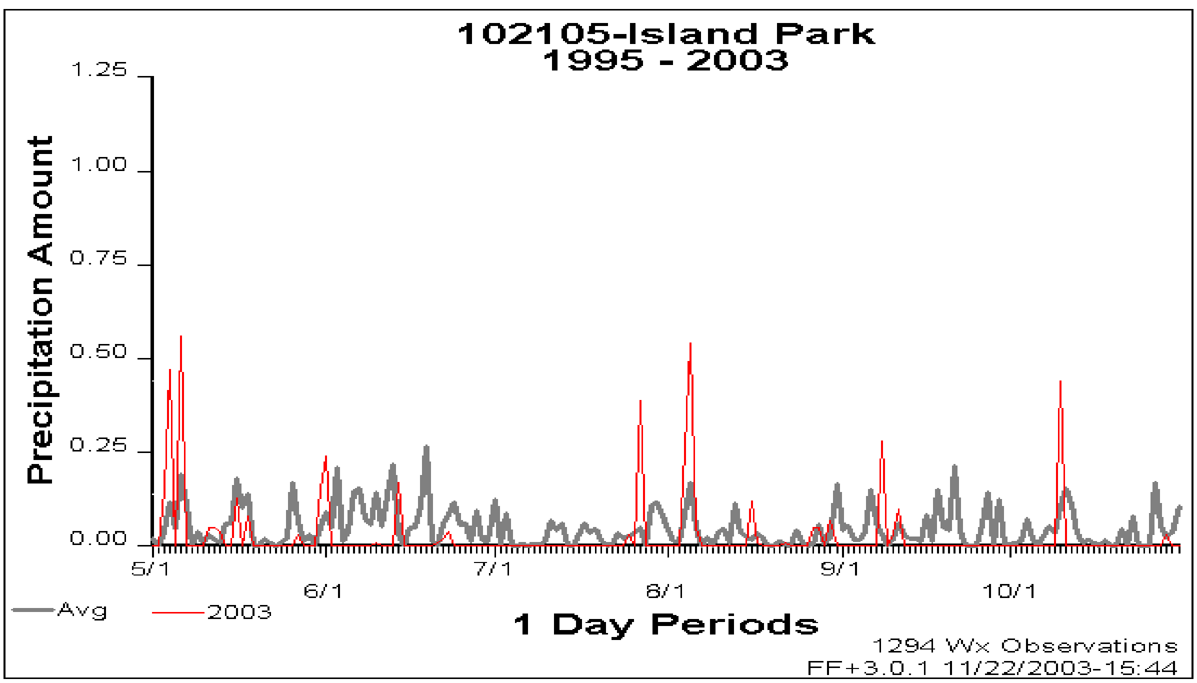

Figure 3.2(f). Observed and average precipitation at Island Park RAWS site. Fire weather zone 411.

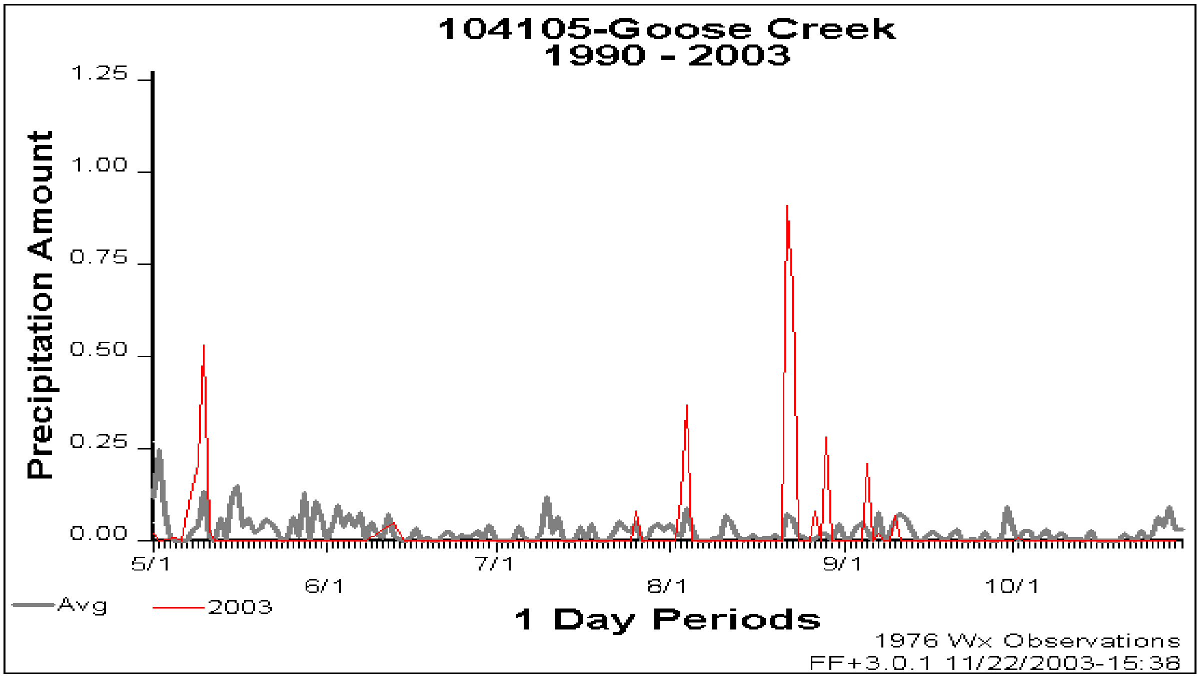

Figure 3.2(g). Observed and average precipitation at Goose Creek RAWS site. Fire weather zone 412.

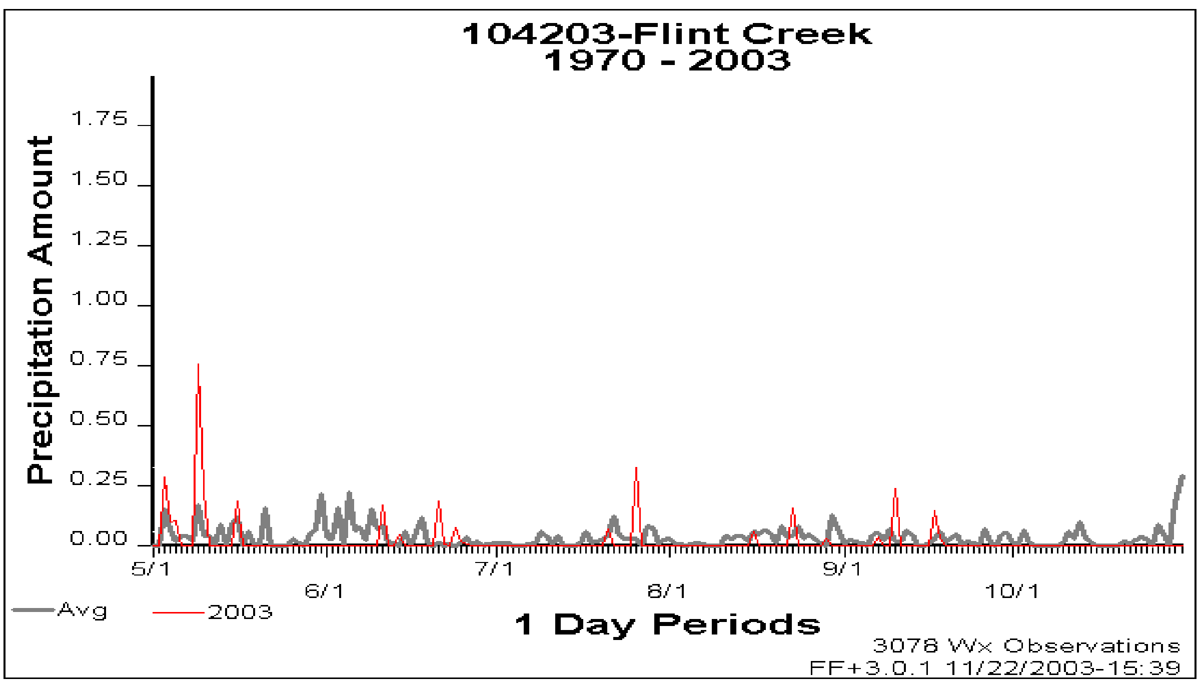

Figure 3.2(h). Observed and average precipitation at Flint Creek RAWS site. Fire weather zone 413.

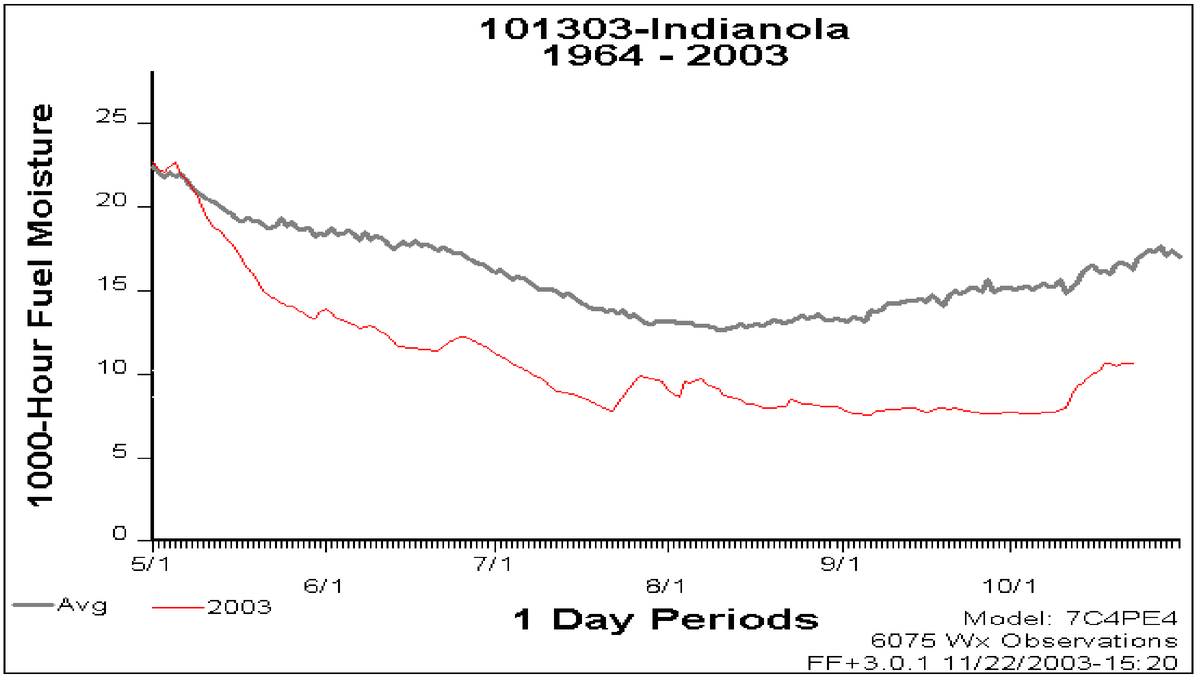

Figure 3.3(a). Observed and average 1000 Hour Fuel Moisture at Indianola RAWS site. Fire weather zone 405.

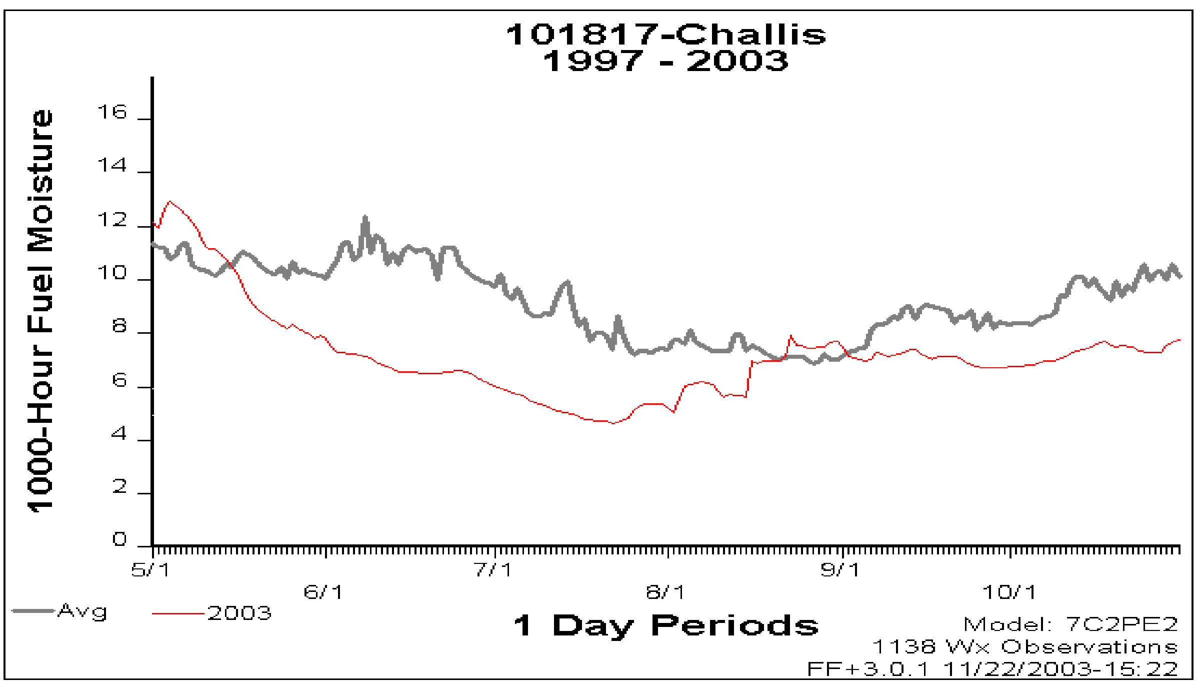

Figure 3.3(b). Observed and average 1000 Hour Fuel Moisture at Challis RAWS site. Fire weather zone 406.

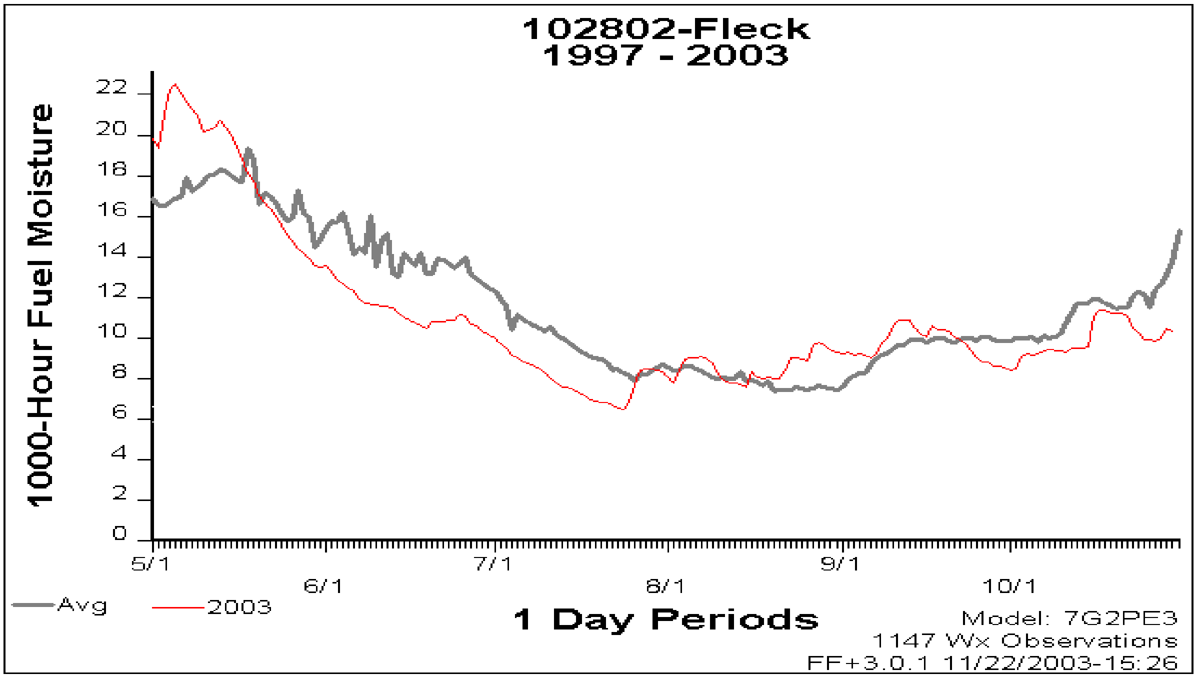

Figure 3.3(c). Observed and average 1000 Hour Fuel Moisture at Fleck RAWS site. Fire weather zone 407.

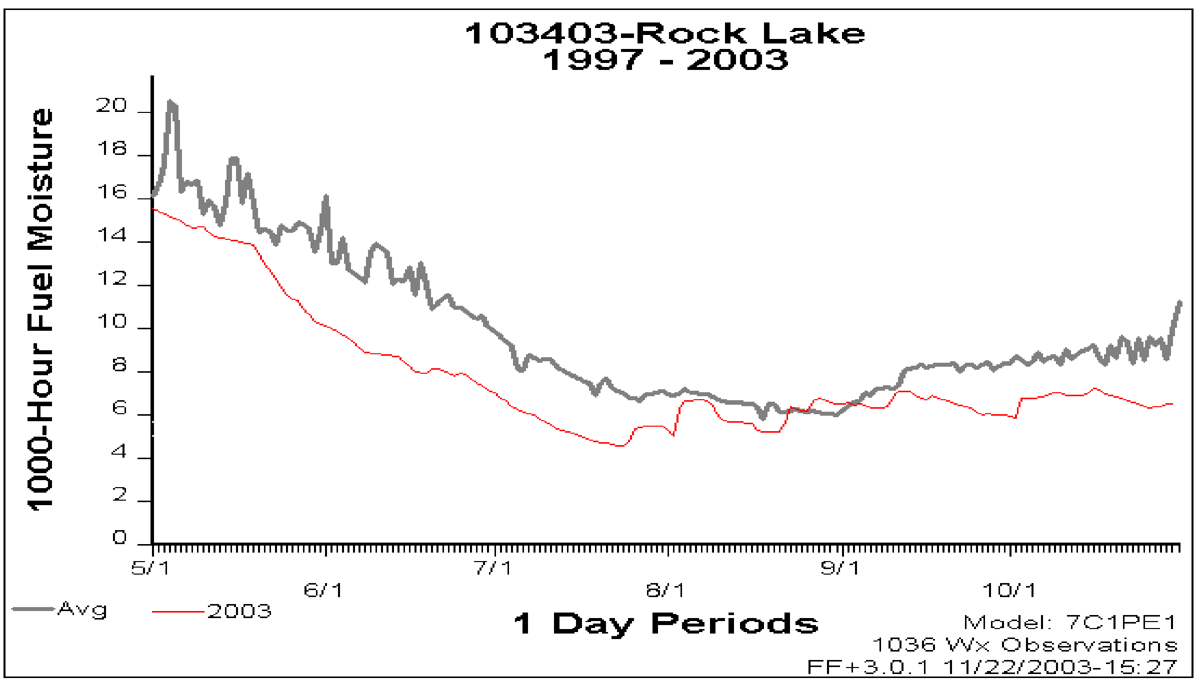

Figure 3.3(d). Observed and average 1000 Hour Fuel Moisture at Rock Lake RAWS site. Fire weather zone 409.

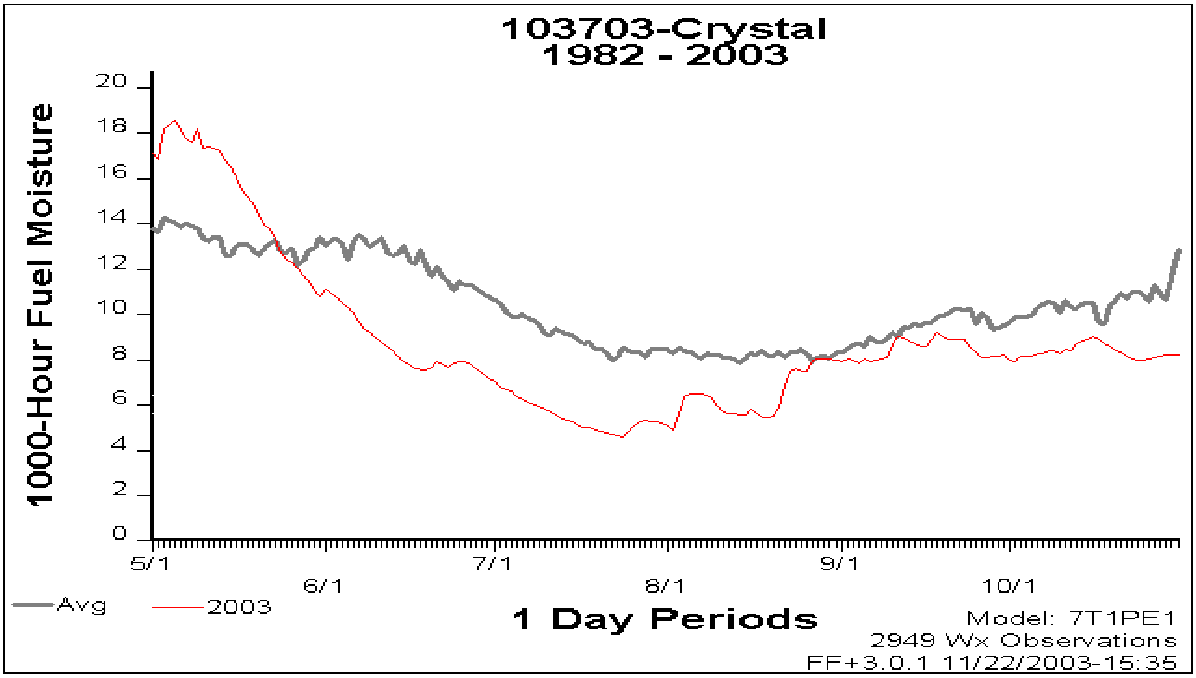

Figure 3.3(e). Observed and average 1000 Hour Fuel Moisture at Crystal RAWS site. Fire weather zone 410.

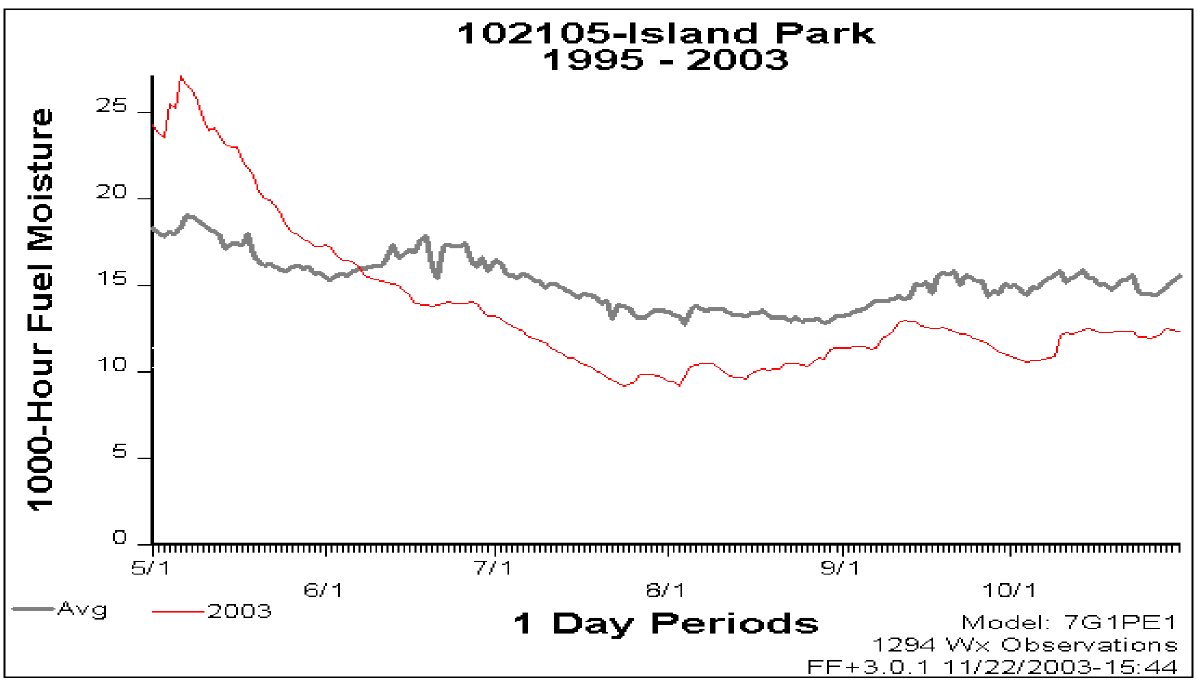

Figure 3.3(f). Observed and average 1000 Hour Fuel Moisture at Island Park RAWS site. Fire weather zone 411.

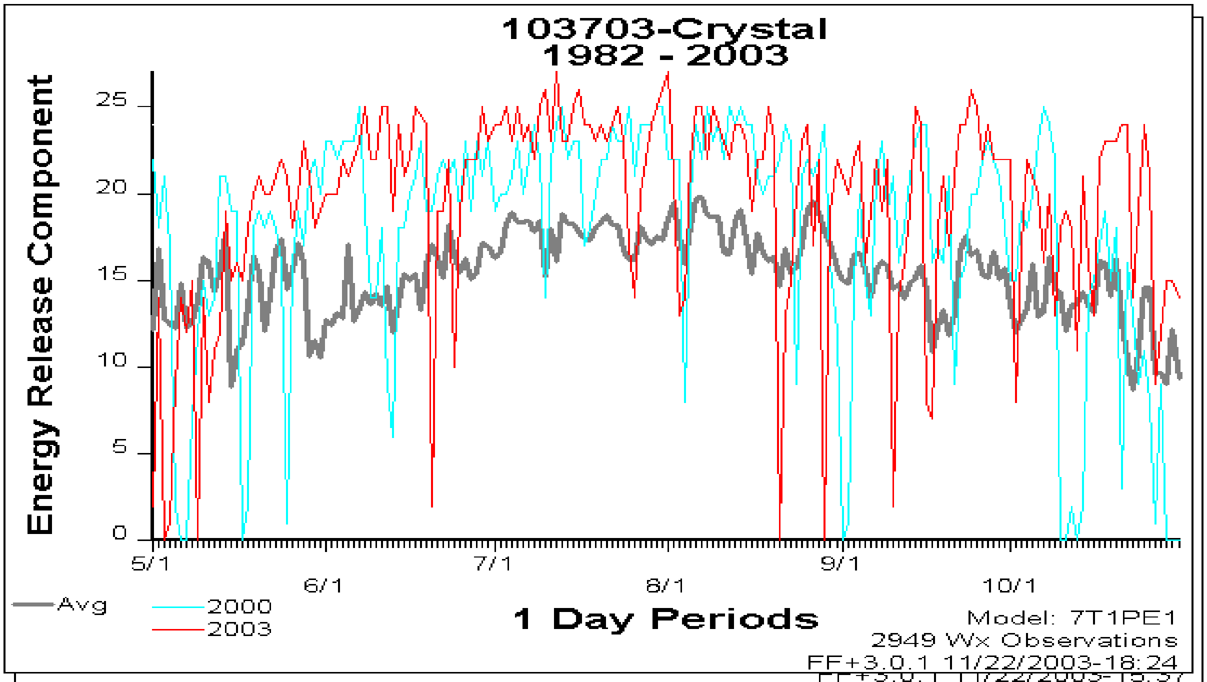

Figure 3.4. Calculated Energy Release Component at Crystal RAWS site. Fire weather zone 410.

Figure 3.3(g). Observed and average 1000 Hour Fuel Moisture at Goose Creek RAWS site. Fire weather zone 412.

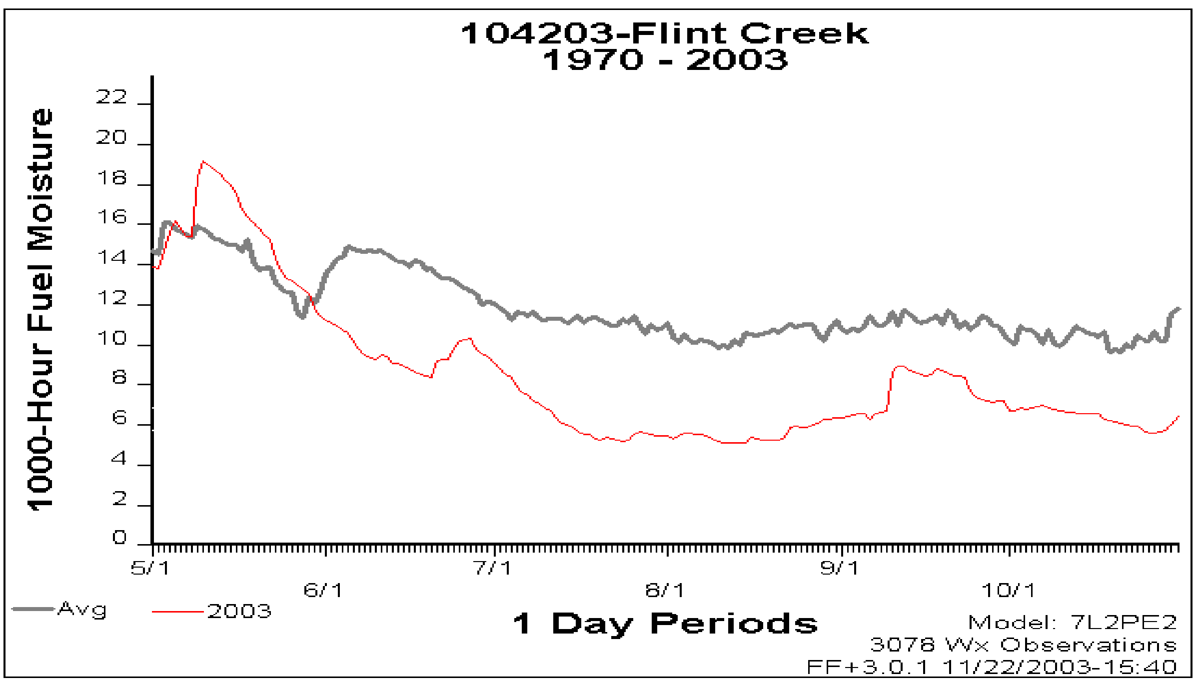

Figure 3.3(h). Observed and average 1000 Hour Fuel Moisture at Flint Creek RAWS site. Fire weather zone 413.

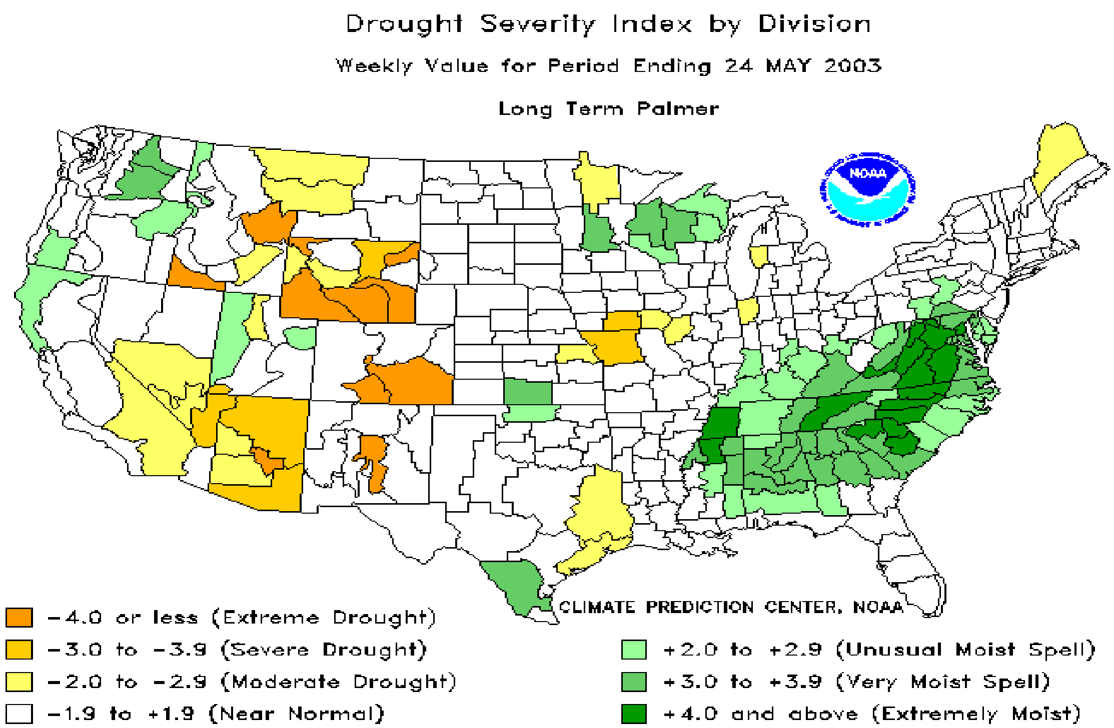

Figure 3.5(a). Palmer Drought Severity (May 24, 2003).

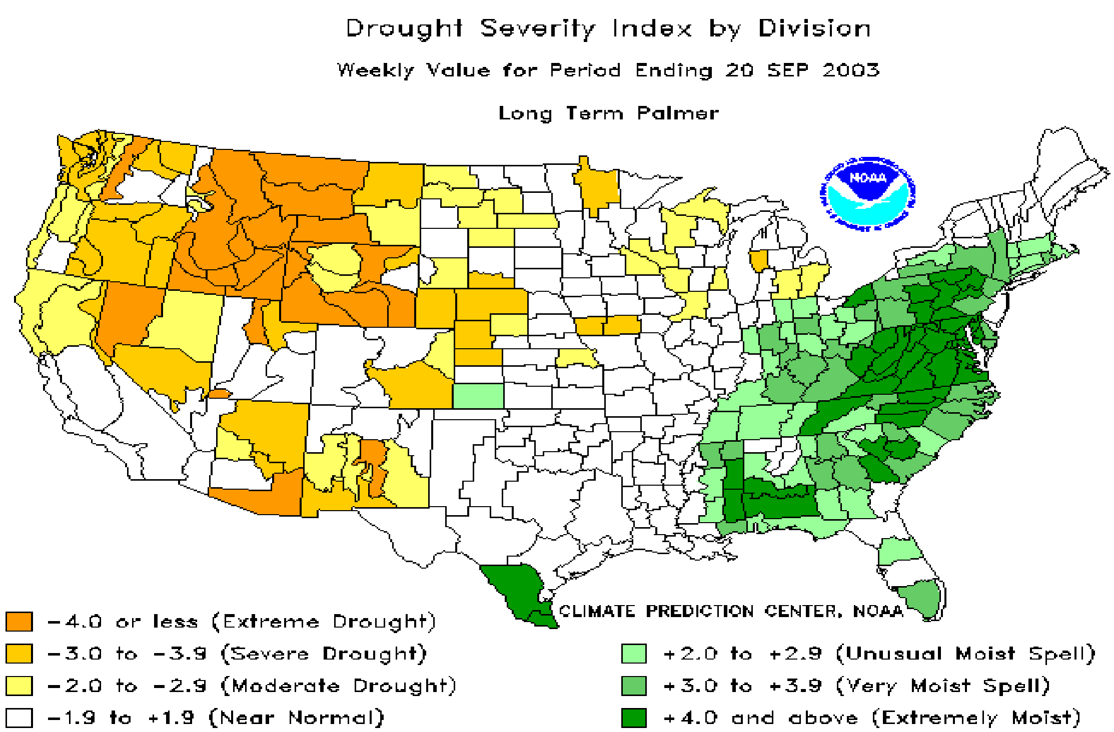

Figure 3.5(b). Palmer Drought Severity (September 20, 2003).

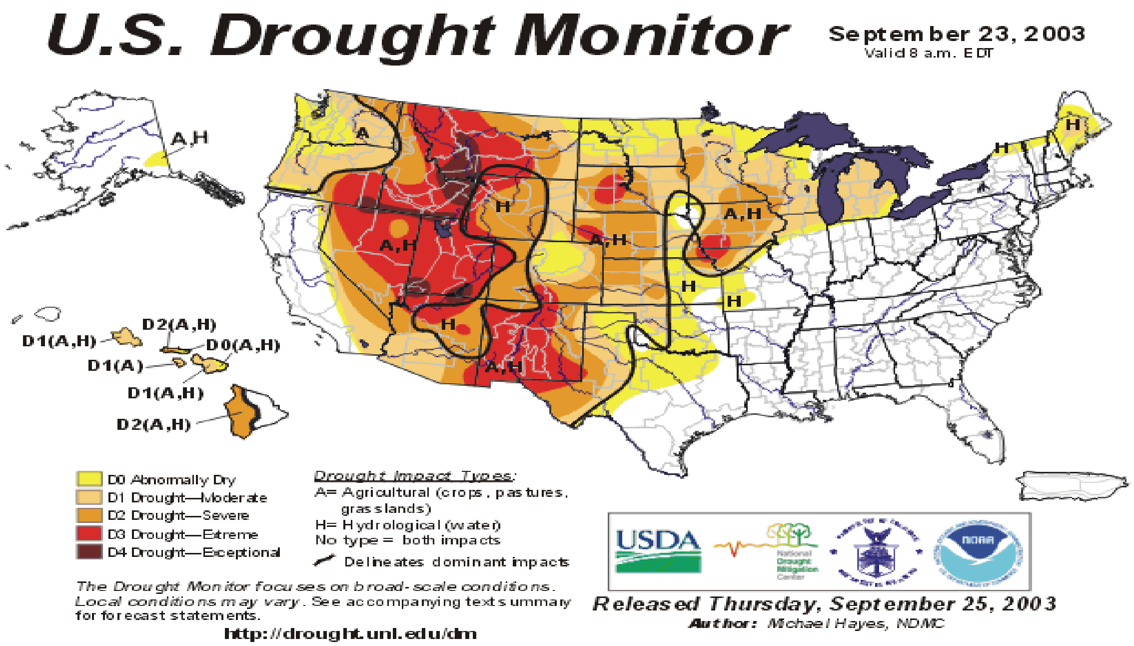

Figure 3.5(c). This summary map is based on a multi-index drought classification scheme. Produced jointly by the National Drought Mitigation Center (University of Nebraska-Lincoln) and several federal partners including Joint Agricultural Weather Facility (U.S. Department of Agriculture and Department of Commerce/National Oceanic and Atmospheric Administration), Climate Prediction Center (U.S. Department of Commerce/NOAA/National Weather Service), and National Climatic Data Center (DOC/NOAA).

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4. Office Operations:

4.1 Red Flag Verification

1. Formal verification of Red Flag Warnings in Southeast Idaho began with the 2000 Fire season and is now a permanent part of the fire weather program. Verification is based on current Red Flag Warning and Fire Weather Watch criteria that has been coordinated with local land management agencies and published in the Eastern Great Basin Fire Weather Operating Plan. Current criteria for the Pocatello Fire Weather District are shown in paragraph 4.1.2 below.

Events considered "short fused" or having time lengths typically less than six hours (Dry Lightning) were split out from other events occurring over a longer time period, reference tables 4.1 (a-d) below.

2. Conditions That Indicate a Red Flag Event:

Fire Weather Watches and Red Flag Warnings, are issued for conditions of high to extreme fire danger (as determined by land management agencies) and dry fuels, in combination with one of the following:

a. Widely scattered or greater ($\geq$ 15% of areal coverage) "dry" thunderstorm activity. A thunderstorm is considered "dry" if it produces little or no precipitation (< 0.10 inch) but significant lightning.

b. The occurrence of widely scattered or greater ($\geq$ 15% of areal coverage) lightning after an extremely dry period.

   In the Eastern Great Basin prolonged dry periods are common. Eventually the airmass over the region begins to become unstable during such times. Thunderstorms will begin to develop in that unstable airmass, and often these storms will "initially" be dry. If the thunderstorms are briefly "wet" during prolonged dry periods, numerous ignitions or wildfire starts from "holdovers" are possible.

c. Strong winds and low relative humidity - sustained (10-minute average) winds $\geq$ 20 mph and/or wind gusts $\geq$ 35 mph for 3 hours or more; and relative humidity $\leq$ 15%, except for fire weather zones 409 and 410, relative humidity $\leq$ 10%.

d. In the judgement of the forecaster, weather conditions will create a critical fire control situation. These conditions may include strong microburst winds, passage of a cold front or a strong wind shift, or Haines Index of 5 or 6 combined with extremely hot and dry conditions (e.g., very low humidity <10% day and <35% night).

Red Flag criteria are developed from a local knowledge of fuel types, terrain, weather conditions common or unusual to the area, historical fire behavior, and judgement of the local land management agencies. Because the criteria for issuing Red Flag products can vary from one district to another, these verification results are not necessarily comparable with all other forecast offices.

3. Methodology:

Verification of Red Flag Warnings were conducted on a zone by zone bases. Example: If a warning for strong wind was issued for fire weather zones 409 and 410, but strong winds were observed only in zone 410, then this counts as 2 warnings, 1 that verified and 1 false alarm. Also, if strong winds were observed in zone 412, but no warning was issued, then this would be counted as 1 missed event.

Sources of verification included both manual and automated observing systems such as Remote Automated Weather Stations (RAWS), Meteorological Reporting Stations (METAR), local MESONET reporting networks, lighting data, upper air RAWINDSONDE (weather balloon) data, WSR-88D Doppler Weather Radar observed winds and estimated precipitation, volunteer weather spotter information such as heavy rain events, and reports of observed fire behavior from personnel in the field.

Statistical parameters were calculated as follows:

Probability of Detection	POD = a/(a+c)
Critical Success Index	CSI = a/(a+b+c)
False Alarm Rate	FAR = 1-(a/(a+b))

where

a = the number of correct warnings (verified)
b = the number of incorrect warnings (not verified)
c = the number of events not warned

4. Sources of Error:

In fire weather zone 411 sustained winds more than 20 mph are rarely observed at the RAWS stations. However, phone conversations with field personnel and local spotters often indicated significant winds did occur, particularly in the Henry’s Lake area.

Personal judgement was required to determine when “dry lightning” was more than an isolated event, and when thunderstorms with wetting rain were significant in areal coverage.

Field observation of fire behavior was an important indicator of Red Flag conditions. On days or in locations where there were no on-going fires this information was not available.

The RAWS stations report a 10 minute average wind while the METAR stations report 2 minute average winds. This is further complicated by some local mesonet stations that report a 5 minute average wind.

Determining lead time for events involving a high Haines Index was subjective at best. Generally, lead time was computed as the difference between the time the warning was issued and the first available 00Z or 12Z upper air sounding indicating the condition existed.

In some rare cases it is possible for a Red Flag Warning or Fire Weather Watch to be issued based on strong land management agency concerns while expected weather conditions are marginal, e.g., an ongoing fire situation.

Skill and lead time vary with the type of event.

5. Decision Criteria:

Wind - In order to eliminate events like isolated canyon winds, verification of wind events generally required two observing sites within each zone to report sustained winds of 20 mph or more. An exception was made for fire weather zone 411 where canopy and sitting of sites may not show strong winds. The Island Park RAWS site has enough canopy or wind blocking terrain that strong winds are not likely to be reported.

Lightning - Archived lightning data was used to determine verification. A good deal of judgement was needed to determine if the observed lightning was more than an isolated event.

Wet versus dry thunderstorms - WSR-88D Doppler Weather Radar precipitation estimates and surface observations were used in the verification process. Once again, a fair amount of judgement was required to determine which events qualified as “dry lightning” events. The number of reported fire starts is not a reliable indicator since lightning strikes can occur outside the thunderstorm precipitation shield.

Other - Reports of observed fire behavior from personnel in the field were useful when dealing with long-term drought conditions and days of repeated low relative humidity. This was particularly troublesome since there were days when sustained fire runs were observed, but winds were less than 20 mph, lightning was isolated or did not occur, and humidity varied from 5 to 15 percent. The Haines index was usually 5 or 6 on significant days, but could be on other days as well.

6. Results:

Red Flag Warning criteria were met on 12 different days this season in the Pocatello Fire Weather District. There were a total of four missed events. However, they occurred on days when warnings were in effect for adjacent fire weather zones.

	May-June	July	August	September-October	Total
Total # of watches	2	19	11	12	44
Total # of warnings	0	24	21	12	57
Verified warnings that were preceded by a watch	0	9	5	8	22
Warnings verified (a)	0	14	12	8	34
Warnings not verified (b)	0	10	9	4	23
Events not warned (c)	0	2	0	2	4

Table 4.1(a). Combined synoptic (long term) and short fused Red Flag event products issued in the WFO Pocatello Fire Weather District during the 2003 fire season.

	May-June	July	August	September-October	Total
Total # of watches	2	11	2	12	27
Total # of warnings	0	12	3	12	27
Verified warnings that were preceded by a watch	0	5	0	8	13
Warnings verified (a)	0	8	1	8	17
Warnings not verified (b)	0	4	2	4	10
Events not warned (c)	0	1	0	2	3

Table 4.1(b). Synoptic scale Red Flag event products issued in the WFO Pocatello Fire Weather District during the 2003 fire season. Example: cold fronts, low relative humidity, high Haines index and extended periods of drought.

	May-June	July	August	September-October	Total
Total # of watches	0	8	9	0	17
Total # of warnings	0	12	18	0	30
Verified warnings that were preceded by a watch	0	4	5	0	9
Warnings verified (a)	0	6	11	0	17
Warnings not verified (b)	0	6	7	0	13
Events not warned (c)	0	1	0	0	1

Table 4.1(c). Short fused Red Flag event products issued in the WFO Pocatello Fire Weather District during the 2003 fire season. Example: lightning events associated with "dry" thunderstorms.

Red Flag verification resulted in the following:

	Synoptic Events	Dry Lightning Events	All Events
Probability of detection POD =	.85	.94	.89
Critical success index CSI =	.57	.55	.56
False alarm rate FAR =	.37	.43	.40
Average lead time for Warnings =	8 hrs. 30 min.	3 hrs. 43 min.	6 hrs. 14 min.
Average lead time for verified watches =	29 hrs. 59 min.	23 hrs. 52 min.	26 hrs. 54 min.

Table 4.1 (d). Red Flag verification results for the WFO Pocatello Fire Weather District during the 2003 fire season.

7. Implications:

The higher incidence of dry lighting this year likely contributed to more fire starts (reference table 1). A total of 57 (32 in 2002, 42 in 2001 and 111 in 2000) Red Flag Warnings were issued this season. Red Flag Warnings were in effect on a total of 13 days (8 in 2002, 14 in 2001 and 32 in 2000). Of the 57 warnings issued, 30 were issued for “dry” lightning and these occurred in July and August. The remainder of the warnings were issued for winds, low relative humidity and high Haines Index.

4.2 Spot Forecasts prepared by WFO Pocatello:

Wildfires	130
Prescribed Fires	94
Other	0
Total	224

(Verbal Telephone Briefings = 14)

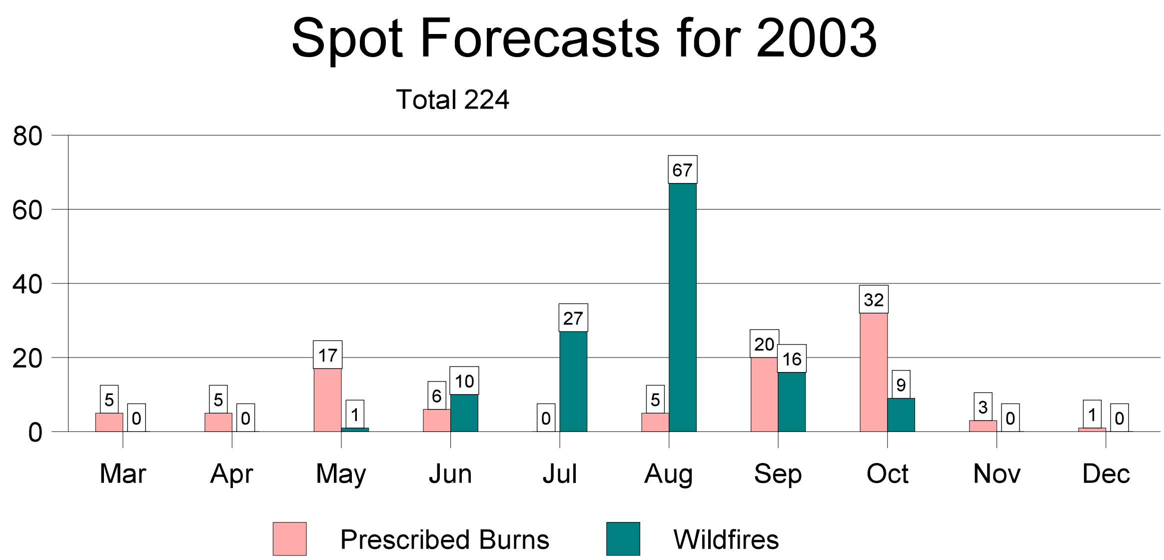

Figure 4.1. Spot Forecasts prepared by the Pocatello Fire District during the 2003 fire season.

4.3 Fire Dispatches supported by WFO Pocatello: There were a total of 6 IMET dispatches

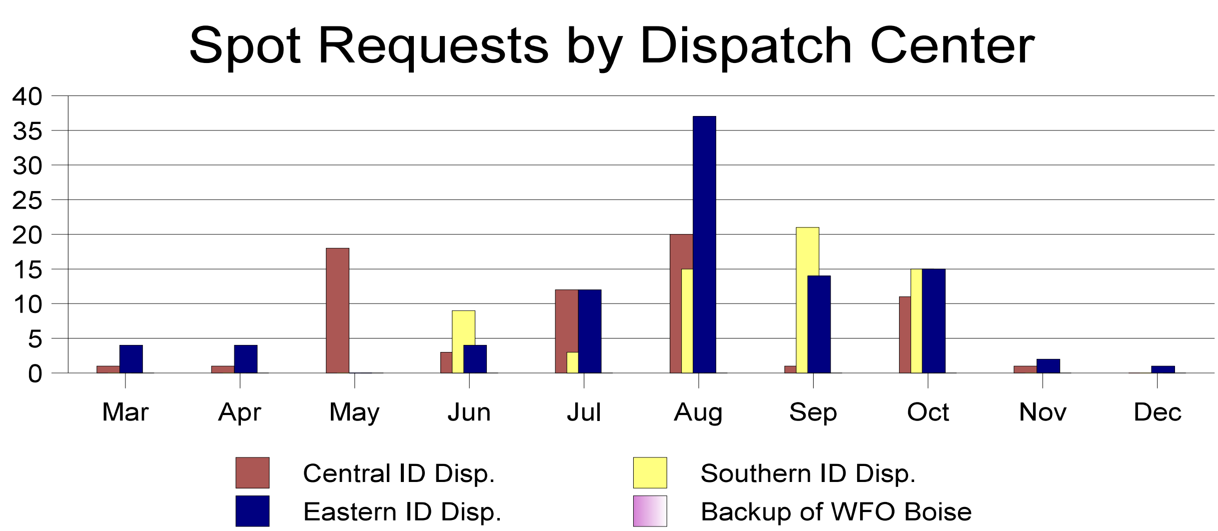

Figure 4.2. Spot Forecasts requested by dispatch area during the 2003 fire season in Southeast Idaho.

resulting in 50 man days served out of the office.

Table 4.2. Incident Meteorologist Dispatches.

Date	Dispatch Location	Incident Meteorologist
July 15 to July 23, 2003	Tobias Fire, Salmon-Challis NF, near Salmon, Idaho	Jack Messick
August 3 to August 9, 2003	North Fork Lick Fire, Payette NF, McCall, Idaho	Jack Messick
August 18 to August 25, 2003	Craig II Fire, BIA Northern Cheyenne Agency, near Lame Deer, Montana	Jack Messick
August 12 to August 17, 2003	Falconberry Fire, Frank Church River of No Return Wilderness, near Challis, Idaho	Bob Survick
August 18 to August 24, 2003	Withington Fire, Salmon-Challis NF, Salmon, Idaho	Bob Survick
August 30 to September 11, 2003	Cooney Ridge Complex, Montana DNRC (Beaverhead and Lolo NF), Clinton, Montana	Bob Survick

4.4 Training: WFO Pocatello staff participated in the following training courses during the 2003 season.

Forecaster	Training situation
Jack Messick	Instructor S-190 Introduction to Wildland Fire Behavior, June 2 and 3, 2003, hosted by the Sawtooth NF at the Sawtooth United Methodist Camp located north of Twin Falls, about 25 miles north of Fairfield, Idaho.
Bob Survick	Presented an Introduction to Fire Weather seminar to volunteer fire fighters at Fire Station #3 in Chubbuck, Idaho June 4, 2003.
Bob Survick	Instructor S-290 Intermediate Wildland Fire Behavior, June 19 and 20, 2003, hosted by the Salmon NF Fire Academy, and held at the Central Idaho Interagency Dispatch Center.

4.5 Preseason Field visits. The staff at WFO Pocatello participated in a total of six pre season interagency meetings.

Location	Dates
Eastern Great Basin Fire Weather Operating Plan meeting held at WFO Las Vegas Las Vegas, Nevada	March 26, 2003
Eastern Idaho Interagency Fire Center Idaho Falls, Idaho	May 13, 2003
Central Idaho Interagency Fire Center Salmon, Idaho	May 14, 2003
South Central Interagency Dispatch Center Shoshone, Idaho	May 12, 2003
Sawtooth National Forest Office Twin Falls, Idaho	May 12, 2003
WFO Pocatello (SIIFC visit) Pocatello, Idaho	June 10, 2003